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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,799	12/08/2003	Kia Silverbrook	ZG119US	8918
24011	7590	03/29/2004	EXAMINER	
SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			VU, DAVID	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,799

Applicant(s)

SILVERBROOK, KIA

Examiner

DAVID VU

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 11, 12 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 5-8, 10, 13, 14 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/129,502.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/12/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4, 12 and 15-17 are rejected under 35 U. S. C. 102(e) as being anticipated by Fujii et al. (US 6,429,506).

Regarding claim 1, Fujii et al., in related figures, disclose a wafer scale polymeric cap, made by a molding method, the method including: forming, in a two part mold 14/42 c, an array of first hollow molded caps 14, from a layer of thermoplastic material which is placed in the mold, the mold having first and second mold halves 14/42 which are brought together to form the caps; and separating the array into individual caps (Fig. 8D).

Regarding claims 2-3, Fujii et al., in related figure disclose the step of applying, using one half, the caps to one side of a wafer (Fig. 8C).

Regarding claim 4, Fujii et al., in related figure disclose the caps are separated from the array into individual caps by an etching process (Fig. 8D).

Regarding claim 12, Fujii et al., in related figure disclose when the mold is closed, there is a thin layer of the material from which the caps are formed joining the caps into an array and the thin layer is removed by mechanical action of the mold (Fig. 16B).

Regarding claims 15-17, Fujii et al., in related figure disclose the first mold half has a lower surface into which is formed a series of recesses defined by lateral edges, the second mold half having an upper surface in which is formed a series of grooves, the grooves aligning with the edges, the recesses and grooves defining cavities having a repeat spacing that corresponds to a spacing on a wafer to which the caps will be applied (Fig. 3E).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 6,429,506).

Regarding claim 9, Fujii et al., in related text (Col. 4, Lines 55-64) disclose heating the cap with UV radiation. Fujii et al. fails to expressly disclose heating the cap material with infrared radiation. It would have been obvious to one with ordinary skill in the art at the time of

the invention was made to use infrared radiation in Fujii method in order to provide a desire amount of energy in the heating process.

Regarding claim 11, Fujii et al. fails to expressly disclose thickness of the thermoplastic material. The specific thickness of the passivation layer does not provide any critical or unexpected results to the process. Rather, it is merely an obvious design choice determinable by routine experimentation. In *Aller*, the court stated, "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456 105 USPQ 233,235 (CCPA 1995).

Allowable Subject Matter

3. Claims 5-8, 10, 13-14 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: None of the references of record teaches or suggested the first half includes first holes formed through it; there being provided a first half release wafer from which project pins; the pins located in registry with the first holes; the first half having a thickness in the area of the first holes, the pins being longer than the thickness; the first half release wafer having a first position in which the pins are flush with interior ends of the first holes; there being a gap between the first half and the first half release wafer when the first half release wafer is in the first position; and

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wherein a vacuum is applied to the gap to eject the caps as required by claims 5-7, 10, 14 and 18-20; and discloses removing cap material by using an oxygen plasma etch as required by claims 8 and 13.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Vu whose telephone number is (571) 272-1798. The examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm. If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms., can be reached on (571) 272-1787.

DV

David Vu.


David Nelms
Supervisory Patent Examiner
Technology Center 2800